ATTACHMENT D

ABSTRACT OF REVISION 19 OF THE TRUPACT-II SAR, REVISION 19 OF THE TRAMPAC DOCUMENT, AND REVISION 13 OF THE TRUCON DOCUMENT

The changes comprising Revision 19 of the TRUPACT-II Safety Analysis Report (SAR), Revision 19 of the TRUPACT-II Authorized Methods for Payload Control (TRAMPAC) document, and Revision 13 of the TRUPACT-II Content Codes (TRUCON) document are described below:

TRUPACT-II SAR

All information related to payload requirements and control has been removed from the SAR and consolidated in the TRAMPAC document. Applicable sections of the SAR have been revised to reflect the transfer of payload requirements to the TRAMPAC document. In addition, the following changes have been made to the SAR:

- **Shipment of the TRUPACT-II by railcar.** Chapter 1.0 has been revised to address this additional shipment option for the TRUPACT-II.

- **Revision to packaging and payload assembly drawings.** Minor changes have been made to packaging drawings in Appendix 1.3.2, Packaging General Arrangement Drawings, and payload assembly drawings previously included in Appendix 1.3.8, Payload Assembly Drawings, have been consolidated in the TRAMPAC document.

- **Revision to chemical compatibility analysis methodology.** Appendix 2.10.12, Chemical Compatibility of Waste Forms, has been revised to demonstrate chemical compatibility across waste types by basing the chemical compatibility analysis on the tables of allowable materials by waste material type.

- **Revised TRUPACT-II pressure calculations.** Calculations in Section 3.4.4, Maximum Internal Pressure, have been revised to expand the range of acceptable wattages that demonstrate compliance with pressure limits on the TRUPACT-II.

- **Additional method for determining aspiration times.** Appendix 3.6.11, Aspiration of Unvented Payload Containers of CH-TRU Waste, has been revised to include the method of determining the required aspiration period for an unvented drum by taking a hydrogen gas measurement below the lid of the rigid drum liner at the time of venting.

- **Revised decay heat limits for SWB overpacks.** Appendix 3.6.13, Effect on Decay Heat Limits of Overpacking Payload Containers, has been revised to demonstrate that overpacking 55-gallon drums in a standard waste box (SWB) fitted with four filters does not decrease the decay heat limit of the 55-gallon drums.

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(Continued)

- **Inclusion of new configurations in shielding analysis.** Chapter 5.0, Shielding Evaluation, has been revised to address the new S100 and S200 pipe overpack configurations.

- **Revisions to Chapters 7.0, 8.0, and 9.0.** Chapter 7.0, Operating Procedures, Chapter 8.0, Acceptance Tests and Maintenance Programs, and Chapter 9.0, Quality Assurance, have been revised to clarify details based on operational experience with the TRUPACT-II.

TRAMPAC

Revision 19 of the TRAMPAC document describes all of the payload requirements and allowable methods of control for payloads to be transported in the TRUPACT-II package, formerly contained in the TRUPACT-II SAR. In addition, the TRAMPAC document describes the justification and methodology for the following changes (affected chapters/appendices listed in parentheses):

- **Use of dose-dependent G values based on matrix depletion**. Wattage limits have been established for applicable waste containers to account for matrix depletion and the use of dose-dependent G values (Appendix 5.2, Use of Dose-Dependent G Values for TRU Wastes, and Appendix 5.5, Derivation of Payload Shipping Category Decay Heat Limits).

- **Implementation of the Flammability Assessment Methodology**. This methodology is used to determine shippability of waste containers with flammable volatile organic compound (VOC) concentrations greater than 500 parts per million (ppm) if a flammable gas/VOC mixture lower explosive limit is met (Appendix 5.7, Unified Flammable Gas Test Procedure).

- **The use of packaging-specific drum age criteria (DAC) and prediction factors (PF).** These factors are applicable for the headspace gas measurement for flammable VOCs and are based on packaging-specific information. These factors are also derived for SWB configurations (Appendix 5.6, Determination of Steady-State (90%) VOC Concentrations from Drum Age Criteria and Prediction Factors Based on Packaging Configurations).

- **The use of headspace sampling to qualify test category waste containers for shipment.** This option allows the use of a headspace sample of gases to determine compliance with flammable gas/VOC limits for test category wastes (wastes that exceed decay heat limits or 500 ppm headspace flammable VOC concentrations) (Appendix 5.8, Determination of Flammable Gas/Volatile Organic Compound Concentrations by Measurement).

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- **Mixing of shipping categories in a TRUPACT-II payload.** This change allows sites to ship any combination of authorized waste containers in a TRUPACT-II, while accounting for dunnage drums and the mixing of different shipping categories (Appendix 6.3, Mixing of Shipping Categories and Determination of the Flammability Index).

- **Addition of 100-gallon drum as an authorized payload container.** A 100-gallon drum has been added as an authorized payload container for transport in the TRUPACT-II, with six 100-gallon drums in a payload assembly (Appendix 2.1, Specifications for Authorized Payload Containers and Payload Assembly Configurations).

- **Specifications for modified pipe overpack configurations.** These modifications allow the use of shielded pipe overpacks for the shipment of specific waste forms (Appendix 2.3, Description of S100 Pipe Overpack, and Appendix 2.4, Description of S200 Pipe Overpack).

- **Specifications for higher diffusivity filters.** Four new specifications each have been added for container filters and bag filters that allow credit for higher hydrogen diffusivity (and higher decay heat limits) when higher diffusivity filters are used (Appendix 2.5, Specification for Filter Vents).

TRUCON

The TRUCON document has been revised as follows:

- Additional payload container and packaging configurations requested by the sites have been added.

- All information related to decay heat limits has been deleted from the TRUCON and consolidated in the TRAMPAC document.

- The methodology for the revision of existing codes and the addition of new codes to the TRUCON document has been described. The TRUPACT-II Cognizant Engineer may authorize shipment of the waste under an existing or new code.